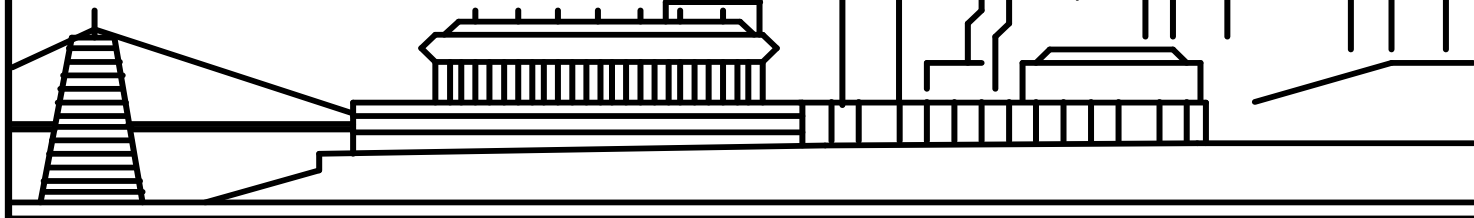




INSTITUTE OF
ELECTRICAL &
ELECTRONICS
ENGINEERS, INC.



NOVEMBER / DECEMBER 1996

IEEE CINCINNATI SECTION NEWSLETTER

NOVEMBER MEETING: APPLYING MILITARY AND ADVANCED TECHNOLOGY TO AREA TRAFFIC MANAGEMENT

DATE: THURSDAY, NOVEMBER 21, 1996

PLACE : Institute of Advanced Manufacturing
Sciences (IAMS)
(see map on Page 7 for directions)

TIME: 5:30 p.m. (Social Time)
6:00 p.m. (Dinner)
7:00 p.m. (Program)
8:30 p.m. (Approx. - Adjourn)

COST: \$7.00 (Members)
\$3.00 (Students)
\$9.00 (Non-Members)

Reservations are required for dinner!!!!

Please call Dee Scott at
385-9446

by **Noon, Wednesday, November 20th** if you plan to attend.

ABOUT THE MEETING: This month's meeting will feature a presentation by Robert A. Bross, Director of Operations, SmartRoute Systems.

The presentation will address the ARTIMIS Operations Control Center, including a local history of traffic management, developing technology for and the beginning of SmartRoute Systems, OKI advance planning of an ATIS system, partnership growth in the ARTIMIS project, early system deployment - benefits and "lessons learned", implementation of ARTIMIS and future developments.

ABOUT THE SPEAKER Mr. Bross is a life-long Cincinnati native, who attended both Thomas More College and Xavier University. He worked for over 15 years at GE Aircraft Engines, in Information Systems, Finance, Military Cost Proposals, and Spare Parts Sales. He has been involved in emergency radio communications for

over 20 years, served in a volunteer support role for the Hamilton County Emergency Management Agency for 14 years, and spent six years as a part-time paramedic.

Since March of 1995, Mr. Bross has been the Operations Director of SmartRoute Systems, a Cambridge, Massachusetts-based company that provides route-specific traffic information to both regional government agencies and the general public. SmartRoute Systems will be conducting the day-to-day operations at the ARTIMIS Operations Control Center, beginning in 1997.

DOOR PRIZE GIVEAWAY

There will be a door prize given away at this meeting which will consist of a free dinner at a future Section Meeting. Come join us at this very interesting and timely presentation on a technology and application which will definitely affect our transportation options in the future.

CHAIRMAN'S MESSAGE

by Steve Olenick

Last month's meeting featured an informative PCS presentation by Mr. T. R. Stoner of Cincinnati Bell Telephone. He reviewed each technology and compared them with traditional analog cellular service. Thanks to T. R. for his very interesting presentation.

This month we are featuring the "Smart Traveler" system. Next year we have a Kodak presentation on new digital camera technology.

We are also in the process of electing officers to the executive committee. If anyone is interested please contact Mark Reineck as listed in the back of this newsletter.

If you have any suggestions for technical meetings please contact me at 513-573-6555 or e-mail me at SOLENICK@CINELE.COM.

Until next time.

THE ROLE OF IBM IN COMPUTERS

by

R. J. Reiman, Historian

The Business Machine industry was divided between Remington Rand, NCR, Burroughs, Underwood Elliot Fisher and IBM in 1928. Production devices included tabulators, sorters, punchers, punch cards, typewriters and adding machines, all mostly mechanical devices. Growth of IBM began when they acquired Pierce Accounting Machines in 1922, and eleven years later Electromatic Typewriter, which got them into electric typewriters, and electric punch cards, but business didn't flourish until the 1940's and early 1950's.

Financial success came through revenues from equipment leases and card sales, mostly to large corporations and government agencies which were stable during the depression. Punch cards were their "ace". The NRA and Social Security Administration both leased IBM equipment. By 1939, IBM became the leading business machine manufacturer, with Remington Rand leading slightly in gross sales but lagging in net profits. World War 2 pushed IBM into the lead with reputation, money, customer base, and managerial skills, and enabled them to enter the computer business. Thomas Watson, Sr., was reluctant to change, but his son, Thomas Watson, Jr., insisted on IBM entering the field.

In 1939, Thomas Watson Sr., agreed to finance the construction of Howard Aiken's Automatic Sequence-

Controlled Calculator, "Mark 1", which was composed of electromechanical program-controlled calculator using gears and axles, incapable of storing instructions or of performing conditional jumps. Mark 1 was outmoded by ENIAC but was a valuable experience for IBM in the design and construction of calculators. Aiken split with Watson over a row of credit for Mark 1.

Next, IBM began to work on a computer designed by Wallace Eckert, head of the Watson Scientific Computing Laboratory at Columbia University. The computer was called the Selective Sequence Electronic Calculator {SSEC}, and was a technological hybrid with 12,500 tubes, and 21,400 mechanical relays. The carried out the arithmetic and stored a small amount of data and instructions while the relays served as lower but larger internal memory. When the SSEC performed an operation like the addition of two numbers, the necessary instructions and data was transferred from punch tape to relays, to tubes, where the instructions were executed. Although cumbersome, the size of SSEC possessed more computational power than ENIAC. This computer was not fully automatic, and used a small but significant external wiring. On January 27, 1948, it did calculate the Moon's position, six months before Mark 1 of Manchester University in England, the first fully electronic calculator, ran its first stored program. The SSEC was installed in IBM's building on Madison Avenue in Manhattan where it was visible from the street, and attracted attention from its blinking lights, spinning wheels, and punched tape. IBM's entering the field of electronic calculators were the next step, and were a natural progression from electromechanical equipment , punch cards, and relays, essentially the same technology the Hollerith had employed in his first tabulators and sorters.

IEEE 1997 CINCINNATI SECTION BALLOT
Election of Officers for Term
Beginning 1/1/97 and Ending 12/31/98

CHAIRMAN

☐ Randy Holt ☐ Write - In_____

VICE - CHAIRMAN

☐ Bob Haas ☐ Write - In_____

SECRETARY

☐ Chris Anderson ☐ Write - In_____

TREASURER

☐ Orest Melnyk ☐ Write - In_____

MEMBER - AT - LARGE

☐ Ron Harbaugh ☐ Write - In_____

Please vote for only one candidate in each office. Resumes of each candidate can be found on the Page 4 of this newsletter. Please return the ballot by:

JANUARY 1, 1997

Return the complete ballot along with your Newsletter Mailing Contest Survey to:

J. R. Morrison
4472 Oakville Dr.
Cincinnati, Ohio 45211

Signature: _____

IEEE Member Number: _____

RESUMES OF CANDIDATES

CHAIRMAN (RANDY HOLT)

BSEE, University of Cincinnati, 1965; MSE, Arizona State University, 1967; PE, State of Ohio; Associate Professor of Engineering Technology at Northern Kentucky University, 1988-present; Projects Manager, IAMS, 1985-88; Unit Manager, General Electric Aircraft Engines, 1983-85; Manager, Supervisor, Research Engineer, Cincinnati Milacron, 1970-83. Chairman of Cincinnati Section IEEE, 1989-90. Author of technical papers on robots and ecodesign. ESC Professional Accomplishment Award (Academic), 1995. Currently Membership Chairman of Cincinnati Section and member of Executive Committee.

VICE-CHAIRMAN (BOB HAAS)

BSEE, University of Cincinnati, 1955; MBA, Xavier University, 1972; PE, State of Ohio; Retired from CG&E as Section Head, System Protection Engineering; Director, Engineers and Scientists of Cincinnati (ESC); Past Chairman/Member of various IEEE Committees to Develop Standards and Guidelines; Member of Power System Relay Committee, IEEE; Author of three Technical Papers, Current Vice-Chairman of Cincinnati Section.

SECRETARY (CHRIS ANDERSON)

BSEE, University of Cincinnati, 1994; Member of IEEE Communications Society And MTT Society; Associate of the NASA Consultative Committee on Space Data Systems; Volunteer Mentor for NASA Space Engineering Research Center at UC; Author of two technical papers: ***Bandwidth-Limited High Data Transmitter*** and ***Mars Surveyor Program and UHF Telemetry Communications***; Currently Member of Technical Staff at the Cincinnati Electronics Corporation;

TREASURER (OREST MELNYK)

BSEE 1980 and MBA (Finance) 1985, University of Cincinnati; Manager Network Planning, Cincinnati Bell, ESC Board Member; Past position as IEEE Cincinnati Section Chairman, Vice-Chairman, Member-at-Large, Treasurer (Incumbent), Arrangements Chairman, Programs Chairman.

MEMBER-AT-LARGE (RON HARBAUGH)

University of Cincinnati, 1975, BS (Engineering Sciences). Employed by the City of Cincinnati for over 26 years in the Division of Telecommunications, which is a division within the Safety Department. Current position as Assistant Superintendent (Section head) primarily responsible for radio and 911 communications equipment and technical support. Secondary responsibilities include construction and technical support of the City's fiber optic network. Member of IEEE for 15 years and served in various positions in the Cincinnati Section. Also, active member of the Associated Public Safety Communications Officers (APCO).

**JUST IN TIME FOR THE HOLIDAYS.....YOU COULD WIN
\$100 CASH!!!!**

Now you can help your IEEE Section and yourself:

Announcing the Cincinnati Section IEEE Newsletter Drawing!!!

In order to reduce our costs in duplicating, handling and mailing of our Newsletter, we would like to find out how many of our members would like to receive the newsletter by e-mail. Please complete the information below and drop this insert in the mail. All responses received through **DECEMBER 31, 1996** will be eligible for a random drawing for a prize of:

\$100 from the Cincinnati Section IEEE.

Winner to be announced in the **January, 1997 Newsletter**. You may also respond via e-mail to: **j.r.morrison@ieee.org**. Members currently receiving the newsletter by e-mail **must still return a response** to be eligible.

We would also appreciate your completing the enclosed election ballot for Executive Committee Officers for 1997-1998. Remember, **THIS IS YOUR SECTION!!!**

Name: _____

IEEE Member Number: _____

Current Newsletter Mailing Address: _____

E-mail address: _____

Please mark only one box:

☐ **NO - I want to receive our Section's Newsletter by regular mail.**

☐ **YES - I would like to receive our Section's Newsletter by E-mail**

Format preferred: _____ Microsoft Word; _____ Text

SIGNATURE: _____

(Please fold along this line, staple or tape, and mail)

4472 Oakville Dr.
Cincinnati, Ohio 45211

Place
Stamp
Here

**TO: J. R. MORRISON
4472 OAKVILLE DRIVE
CINCINNATI, OHIO 45211**

NEW CINCINNATI SECTION IEEE MEMBERS

The following are new IEEE Members
in the Cincinnati Section:

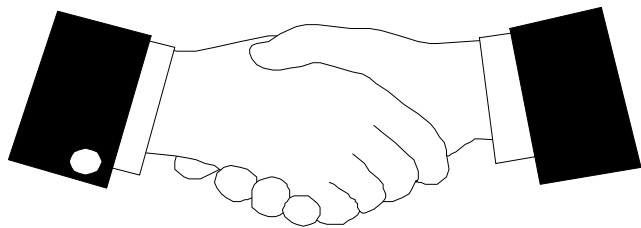
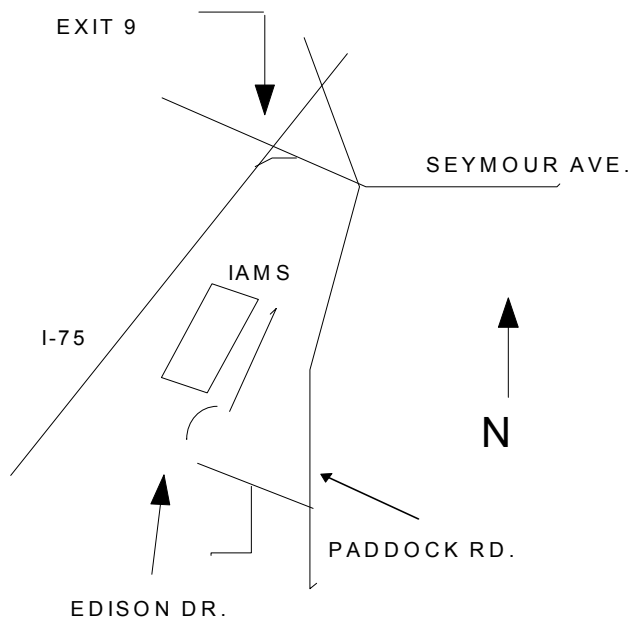
ROBERT G. BROWN
MICHAEL A. DINARDO
MARK M. HODOWANEC
BRIAN J. SOBECKS
RUSSELL G. WARLICK
THOMAS A. WOLTER
CHRISTOPHER J. ZAPHIRIS

The following are existing IEEE Members
who have moved into the Cincinnati Section:

FRED R. BEYETTE
DAVID R. BUTLER
WILLIAM H. CRABTREE
LAWRENCE J. MAZLACK
ASHRAF S. SAAD
PHILIPPE D. STAM
W.. E. WHITE

Welcome to our Section!!!!

MAP TO IAMS



Isn't it time we got together?

Consider the personal and professional benefits that only IEEE can offer you

Being a member of IEEE - the world's largest technical society - makes it easier for you to meet the established professionals in your field; to have ready access to all the latest state-of-the-art information, technical meetings and conferences.

IEEE can be the *single* most vital source of technical information and professional support to you throughout your working career. No doubt, you're already established in your field. Now gain that competitive edge. Become the best informed - an IEEE engineering/scientific *professional*.

Dee Scott (call for meeting reservations)
Steve Olenick - Chairman

Bob Haas - Vice Chairman
Orest Melnyk - Treasurer

385-9446
573-6555 (Office), solenick@cinele.com (E-mail)
573-6514 (Fax)
231-2584
565-3800

Mark Reineck - Secretary	753-6290
Ron Harbaugh - Member-At-Large	352-6202
Eric Wright - Member-At-Large	881-3329
Jack Beckmeyer - Arrangements Chairman	353-2643, 353-2671 (Fax)
Bill Lohner - PACE Chairman	385-7268
Bob Morrison - Editor	287-3697 (Office), 287-3698 (Fax)
	j.r.morrison@ieee.org (E-mail)

NOVEMBER/DECEMBER 1996

IEEE CINCINNATI SECTION NEWSLETTER



**The Institute of Electrical and
Electronics Engineers, Inc.
C/O Dee Scott
7780 Hackney Circle
Maineville, Ohio 45039**

DATED MATERIAL
Please deliver promptly